

WHAT IS CLAIMED IS:

1. A control apparatus of an image forming system to which a plurality of image forming apparatuses having an image forming section for forming image data on an image forming medium are connected, the control apparatus comprising:

a management table for managing an operation state of each of the image forming apparatuses;

an interface for receiving a printing request from each of the image forming apparatuses or an external device and transmitting a printing instruction to each of the image forming apparatuses; and

a controller for, when a printing request for a tandem print job capable of printing using the plurality of image forming apparatuses is received from the image forming apparatuses or the external device through the interface, preparing a schedule in which the tandem print job is distributed and assigned to the plurality of image forming apparatuses based on the operation state of each of the image forming apparatuses, and transmitting a content of the printing that is executed by each of the image forming apparatuses according to the schedule.

2. The control apparatus of the image forming system according to claim 1, wherein one of the plurality of image forming apparatuses includes the control apparatus, and the image forming apparatus

including the control apparatus serves as a master apparatus, while the image forming apparatuses other than the master apparatus serve as slave apparatuses.

5       3. The control apparatus of the image forming system according to claim 1, wherein the schedule is prepared when at least one of the plurality of image forming apparatuses is set in a printable state.

10       4. The control apparatus of the image forming system according to claim 1, wherein the schedule is prepared by assigning part of the tandem print job to an image forming apparatus under execution of a print job other than the tandem print job such that the tandem print job is completed within a shortest time period using the plurality of image forming apparatuses.

15       5. The control apparatus of the image forming system according to claim 1, wherein the controller provides the image forming apparatuses or the external device, which is an originator of the tandem print job, with information representing a schedule of the tandem print job in order to notify a user of the schedule of the tandem print job.

20       6. The control apparatus of the image forming system according to claim 1, wherein the controller provides the image forming apparatuses or the external device, which is an originator of the tandem print job, with information representing a progress of the tandem print job in order to notify a user of the progress of

the tandem print job.

7. The control apparatus of the image forming system according to claim 1, wherein the controller provides the image forming apparatuses or the external device, which is an originator of the tandem print job, with information representing an amount of printing that has been processed and an amount of printing that is to be processed in order to notify a user of the amount of printing that has been processed and the amount of printing that is to be processed.

8. The control apparatus of the image forming system according to claim 5, further comprising a memory for storing information for identifying the originator of the tandem print job when the tandem print job is received.

9. The control apparatus of the image forming system according to claim 1, wherein the controller causes a user to designate user's desired ending time of the tandem print job when the tandem print job is received, and causes another print job to interrupt the tandem print job if estimated ending time is earlier than the desired ending time designated by the user when a printing request for the print job is received during execution of the tandem print job.

10. The control apparatus of the image forming system according to claim 1, wherein the controller causes a user to designate user's desired ending time

of the tandem print job when the tandem print job is received, and causes a print job having higher priority than that of the tandem print job to interrupt the tandem print job if estimated ending time is earlier than the desired ending time designated by the user when a printing request for the print job having higher priority is received during execution of the tandem print job.

11. The control apparatus of the image forming system according to claim 1, wherein the controller causes a user to designate user's desired ending time of the tandem print job when the tandem print job is received, prepares a schedule in which a print job having higher priority than that of the tandem print job interrupts the tandem print job under execution when the print job having higher priority is received, disables an interrupt of the print job having higher priority when estimated ending time of the tandem print job according to the schedule is later than the user's desired ending time, and enables the interrupt of the print job having higher priority if the estimated ending time is earlier than the user's desired ending time, thereby executing the schedule in which the print job having higher priority interrupts the tandem print job.

12. The control apparatus of the image forming system according to claim 1, wherein the controller

provides the image forming apparatuses or the external device, which is an originator of the tandem print job, with options of combinations of image forming apparatuses to execute the tandem print job, and  
5 prepares a schedule of the tandem print job in accordance with one of the options selected by the image forming apparatuses or the external device.

13. The control apparatus of the image forming system according to claim 12, wherein the controller  
10 provides estimated ending time of the tandem print job corresponding to the options of combinations.

14. The control apparatus of the image forming system according to claim 1, wherein when the controller receives a printing request for a print job  
15 having higher priority than that of the tandem print job under execution of the tandem print job, the controller changes the schedule to a schedule in which the print job having higher priority interrupts the tandem print job and notifies the image forming  
20 apparatuses or the external device, which is an originator of the tandem print job, that the schedule is changed.

15. The control apparatus of the image forming system according to claim 1, wherein when the  
25 controller receives a printing request for a print job other than the tandem print job under execution of the tandem print job, the controller causes a user to

decide whether to permit an interrupt of the print job and then determines whether the interrupt of the print job is enabled or disabled based on user's decision.

5 16. The control apparatus of the image forming system according to claim 1, wherein when the controller receives a printing request for a print job other than the tandem print job under execution of the tandem print job, the controller causes a user to  
10 decide whether to permit an interrupt of the print job, changes a schedule under execution to a schedule that the print job interrupts when the user permits the interrupt of the print job and inhibits the print job from interrupting the schedule under execution when the user does not permit the interrupt.

15 17. The control apparatus of the image forming system according to claim 15, wherein when the user does not decide whether to permit an interrupt of the print job within a given time period, the controller determines whether the interrupt of the print job is  
20 enabled or disabled based on contents preset in the controller.

25 18. A method of controlling an image forming system to which a plurality of image forming apparatuses having an image forming section for forming image data on an image forming medium are connected, the method comprising the steps of:

preparing a schedule in which a tandem print job

capable of printing using the plurality of image forming apparatuses is distributed and assigned to the plurality of image forming apparatuses based on an operation state of each of the image forming apparatuses when a printing request for the tandem print job is received from the image forming apparatuses or an external device; and

transmitting a content of the printing to be executed by each of the image forming apparatuses based on the schedule, to each of the image forming apparatuses.

19. The method according to claim 17, wherein the image forming apparatuses or the external device is an originator of the tandem print job, and the originator is provided with information representing the schedule of the tandem print job in order to notify a user of the schedule of the tandem print job.

20. The method according to claim 17, further comprising the steps of:

causing a user to designate user's desired ending time of the tandem print job when the tandem print job is received; and

causing another print job to interrupt the tandem print job if estimated ending time is earlier than the user's desired ending time when the print job is received under execution of the tandem print job.

21. The method according to claim 17, further

comprising the steps of:

- causing a user to decide whether to permit an interrupt of a print job other than the tandem print job when the print job is received under execution of
- 5 the tandem print job; and
- determines whether the interrupt of the print job is enabled or disabled based on user's decision.

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